



POWERCO
Gas Asset Management Plan

Update
2017

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

Powerco's gas network provides an important service to many households and businesses across the North Island of New Zealand. As long-term stewards of the network assets, our aim is to focus on managing the network to deliver a safe, high-quality and highly efficient gas supply. Our gas business has an objective to deliver exceptional service to our customers and this influences our overall attitude, our priorities and day-to-day activities.

Since 2013, we have publicly disclosed our long-term expenditure forecasts every year, and we published two comprehensive Asset Management Plans (AMP) – the latest being in 2015.

The AMP set out the long-term strategy for the delivery of Powerco's gas distribution services and described, at a practical level, our asset management policies and processes, and the performance we expect and receive from our network assets. It also detailed how we strive to efficiently utilise the resources required to balance the price and service quality trade-offs that our customers tell us they require. In 2016 we published an update (2016 AMP Update) detailing changes to the network plans and expenditure forecasts.

This 2017 Asset Management Plan Update (AMP update) covers the period from 1 October 2017 to 30 September 2027. It builds on last year's plan, and provides the latest information on Powerco's long-term strategy on managing our gas assets.

This AMP update was approved by Powerco's Board of Directors on 28 September 2017.

1.2 COMPLIANCE WITH INFORMATION DISCLOSURE REQUIREMENTS

This AMP update complies with the Gas Distribution Information Disclosure Determination 2012 – (consolidated in 2015). We have structured this document to enable the reader to easily match the contents with the disclosure requirements.

The specific requirements on the contents of the AMP update are included in clauses 2.6.5 and 2.6.6. The AMP update must:

- Relate to the gas distribution services supplied by the gas distribution business (GDB)
- Identify any material changes to the network development plans disclosed in the last AMP
- Identify any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the last AMP
- Provide the reasons for any material changes to the previous disclosures in the Report on Forecast Capital Expenditure set out in Schedule 11a and Report on Forecast Operational Expenditure set out in Schedule 11b
- Identify any changes to the asset management practices of the GDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure
- Include the reports set out in Schedule 11a, 11b, 12a, 12b and 12c, respectively related to:
 - Forecast Capital Expenditure
 - Forecast Operational Expenditure
 - Asset Condition
 - Forecast Utilisation
 - Forecast Demand.

1.3 SUMMARY OF MATERIAL CHANGES

There are no material changes to our network development plans or lifecycle asset management plans since the 2015 AMP. This is a reflection of our higher asset management maturity as demonstrated by the increase in the score obtained through the Asset Management Maturity Assessment Tool. We would like to draw your attention on the following points:

- Since publishing the 2015 AMP and the subsequent 2016 AMP Update, we have refined our forecasts related the implementation of a new Enterprise Resource Planning (ERP) system, that was previously referred to Enterprise Asset Management System project. We have accommodated the change in the forecast by readjusting the timing of network projects with the lowest risk.
- We have also successfully completed the second pressure elevation in Wellington CBD, resulting in additional capacity that will benefit our customers by offering more resilience and supporting growth in the city. The remainder of the project will take place in phases until 2022, and we have updated our forecasts for this project, informed by the lessons learnt during the latest phase.
- In line with Powerco's commitment to promote the usage of natural gas,

bringing more comfort and cost-savings to customers throughout New Zealand, we are continuously connecting more homes and businesses onto our networks. The number of customer connections is trending up, and industrial customers are committing to large investments. Our consumer connection expenditure category forecast is higher than previous years to reflect this activity.

There have been a number of minor amendments to network plans, affecting the timing and, in some cases, the solution proposed in the 2015 AMP. These amendments have been made to accommodate changes in customer initiated subdivision development plans, and advancements in our monitoring and modelling of network performance. The amendments, however, do not materially alter the overall expenditure forecasts.

We are continuously improving our Asset Management practices. New asset-specific strategies are progressively being introduced to optimise our asset lifecycle activities. We do not see these initiatives materially affecting the results of our Asset Management Maturity assessment disclosed last year.

1.4 STRUCTURE OF THE 2017 AMP UPDATE

This AMP update is designed to meet disclosure requirements. In the interests of brevity, we have not attempted to duplicate the more explanatory style of the 2015 AMP.

If the reader seeks detailed information on how Powerco manages its gas assets over the long-term, we encourage them to revert to the 2015 AMP, available on Powerco's website (www.powerco.co.nz).

This AMP update has 4 sections:

- Section 1 introduces the document
- Section 2 discusses the material changes in the network plans published in Section 8 of the 2015 AMP and Section 2 of the 2016 AMP update.
- Section 3 provides the justification for the material changes in the expenditure forecasts
- Section 4 provides schedules 11a, 11b, 12a, 12b and 12c.

2 CHANGES IN NETWORK PLANS

2.1 CONTEXT

Powerco operates 35 distribution networks over 5 regions:

- Wellington
- The Hutt Valley and Porirua
- Taranaki
- Manawatu and Horowhenua
- Hawkes Bay.

The two primary drivers for network development are our delivery and efficiency objectives and strategies described in Section 6 of the 2015 AMP. These include aspects such as:

- The rate of demand growth
- Network capacity and utilisation
- Network reliability
- Efficiency and location of stations (DRSs)
- Optimisation of our investment.

Together, these form the basis for our network development plans.

Our previous AMP and AMP update covered network plans up to 2022. This was reflective of our current knowledge and understanding of the network performance and our planning horizon being less accurate after a five-year horizon. This plan extends to 2023.

For this AMP update, we have reviewed the list of projects, their timing, and added projects in response to changes or issues identified since publishing the 2015 AMP and the 2016 AMP update. Changes in the network plans have affected all regions except Hawkes Bay.

2.2 WELLINGTON

2.2.1 CBD UPGRADE

Part 1 of 4 of the upgrade of the Wellington CBD to a 25kPa operating pressure was completed in RY17. We have replaced approximately 165 metres out of a total 6,300 metres (3%) of mains/services, and surveyed/upgraded 355 out of a total

1,338 (27%) consumers' GMS equipment.

The remaining three parts are expected to take one to two years each to complete. The results of Part 1, which resulted in an expenditure of \$1.5m, has allowed us to more accurately estimate the costs of the remaining three parts, with an expected further expenditure of \$10m for Parts 2-4. This increases our forecast of the overall project from \$10m in the 2016 AMP Update to \$11.5m. From RY17 to RY22, we forecast \$1.5m to \$2.5m per year to carry out in-depth inspection of the network and the GMS assets connected to it, and replace any asset that would not be suitable to operate at 25kPa.

2.2.2 WELLINGTON NORTH

The majority of subdivision growth in Wellington is occurring in Woodridge (Newlands), Grenada and Churton Park. As the subdivisions continue to grow away from the points of supply, the network starts to become constrained. We have worked to increase the diameter of the trunk mains feeding these areas, however there are still some smaller diameter mains requiring an upgrade.

We plan to upgrade the following mains to support the forecast growth:

- Woodridge: Middleton/Helston Roads in RY23 for \$175k.
- Grenada: Mark Ave in RY22 for \$160k.
- Churton Park: Westchester Dr in RY23 for \$165k.

Alternative to these mains reinforcements is a pressure uprating to 350kPa, requiring a full risk assessment. With approximately 7,000 consumers and 164km of pipes in the Wellington North pressure system, a pressure uprating of this scale is not a preferred option.

2.2.3 ERSKINE DEVELOPMENT

The Erskine Development in Island Bay is a new development identified this year which consists of an 83-lot residential development as well as an apartment block and chapel. Reticulation works of this development has started in RY17.

2.2.4 CROFTON DOWNS

This 130-lot subdivision at the end of Silverstream Road in Crofton Downs is underway. We will extend our existing mains by approximately 1km in order to supply this subdivision. The station supplying this network has recently been renewed,

with the demand for this new subdivision considered. There is also potential for connecting the existing homes along the 1km mains extension on Silverstream Road.

2.3 HUTT VALLEY AND PORIUA

2.3.1 WAINUIOMATA RATIONALISATION

Wainuiomata pressure system has been identified for rationalisation to reduce the number of stations supplying the network. Two options have been identified; the first is to reduce the number of stations from four to three and the second to reduce the number of stations from four to two with some mains reinforcements (interconnections and overlay of small diameter with larger diameter). We have spent \$50k in RY17 for feasibility and design and a further \$400K in RY18 for construction.

2.3.2 SYSTEM GROWTH

Kenepuru development in Porirua is expected to see the construction of 800 lots over 8 years beginning in RY18. We will support this growth by reticulating the suburb. The existing supply point is expected to cope with the demand; however we will need to upgrade this station to ensure security of supply to the growing number of consumers. We forecast the renewal of this station to a twin stream configuration in RY24.

2.4 TARANAKI

2.4.1 STRATFORD CHICKEN SHEDS

An existing commercial gas customer in Taranaki is looking to connect a new site in Stratford. Our existing network will not support this load, and we plan to outlay a new 3.1km main connecting to the existing network to meet the demand of this site.

2.5 MANAWATU AND HOROWHENUA

2.5.1 MILSON LINE RATIONALISATION

Since the 2016 AMP Update, the Milson Line Rationalisation project has been identified in order to ensure security of supply to the Milson and Cloverlea areas of Palmerston North. A combination of joining pressure systems, station renewals and mains interconnections will allow us to meet the minimum redundancy and capacity requirements for these networks. Additional benefits include a reduction in the number of stations down from six to three and the removal of 3 stations that were deemed to be in high consequence areas and at end-of-life. We will begin the project in RY17 with feasibility and design, as well as construction of the mains interconnections, and complete the station renewals in RY18/19.

2.5.2 SYSTEM GROWTH

A subdivision in Feilding has been identified with 250 lots expected over the next 5 years. We will reticulate this subdivision. The network is expected to support a full uptake of this subdivision.

3 CHANGES IN EXPENDITURE FORECASTS

3.1 CONTEXT

Our 2016 capital expenditure was under our previous forecasts. As explained in our 2016 Gas Information Disclosure (available on our website), our delivery programme slipped significantly in the second half of RY16 due to a number of factors outside our direct control. This includes:

- Shortage of field resources across the sector
- Shortage of pipe material due to increasing demand from other utilities (especially water distribution) on suppliers
- Clashes with other infrastructure projects
- Lower subdivision growth

As our asset management practices mature, we have reviewed the justification and timing of some projects, along with more efficient delivery mechanisms, and better contract management practices to achieve our asset management objectives.

A summary of forecast capital expenditure (capex) and forecast operational expenditure (opex) over the planning period is provided in the figures below. A more detailed summary of forecast expenditure is provided as part of the schedules in Section 4.

The graphs that follow show forecast expenditures in 2017 constant-dollar terms to 2025/26.

3.2 CAPITAL EXPENDITURE

The overall forecast expenditure for the second Regulatory Control Period (RCP) 2018-2022 has increased by ~\$4.8m in real terms as compared to the 2016 forecast. The changes in expenditure are explained by three factors:

- An increase in the non-network expenditure category as a result of the refinement of our investment planning in a new Enterprise Resource Planning system.
- An increase in consumer connection expenditure category as a result of strong customer activity, including several large customers connecting to our network.
- The delay in the execution of some projects planned to be delivered by the end of RY17 for reasons outside of our control.

To accommodate the changes, we have revised the timing of capital projects with a lower level of risk.

Figure 3.1 shows the difference in our different forecasts, and the actuals in Constant 2017 dollar.

Figure 3.1: Comparison of Capital Expenditure.

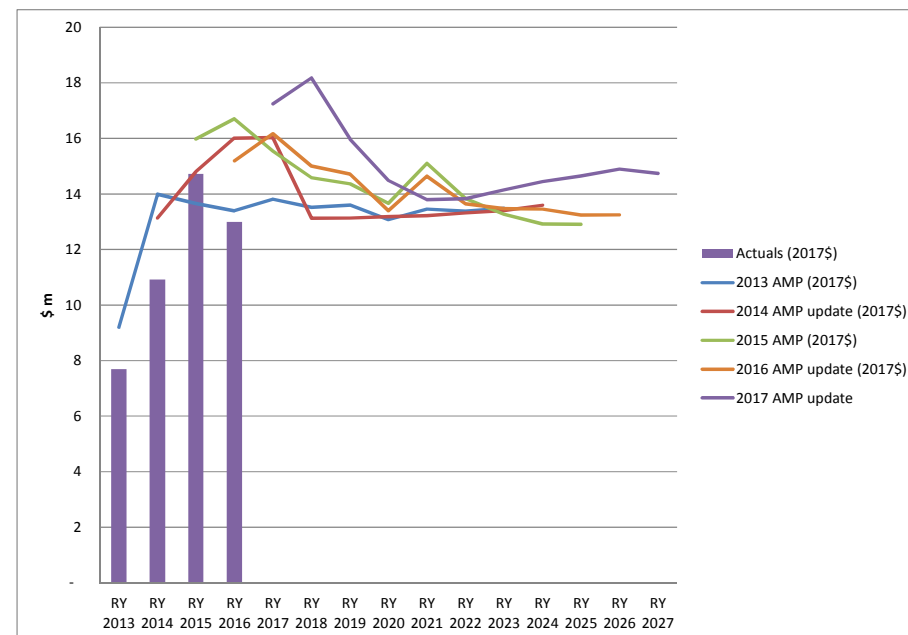
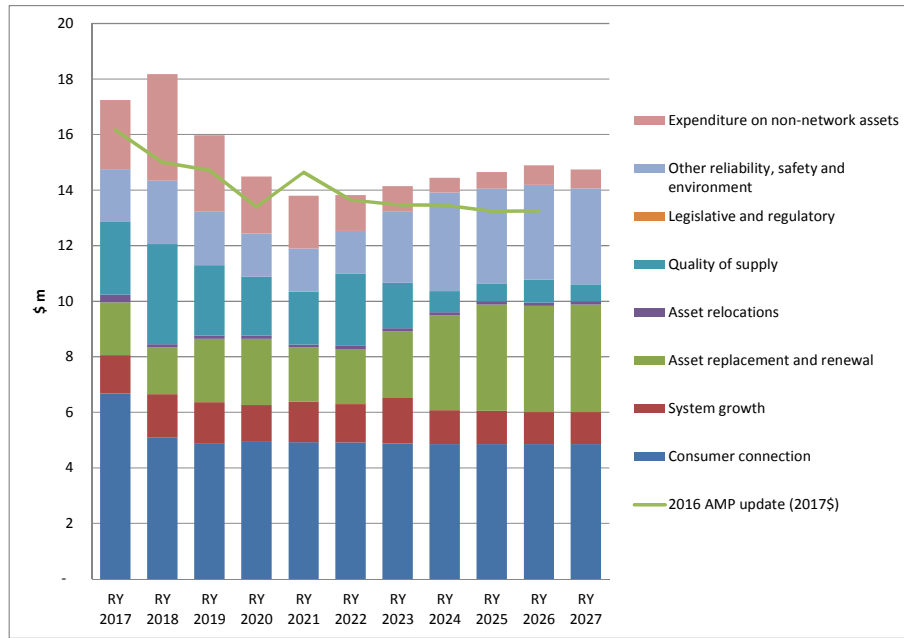


Figure 3.2 below shows the summary of capital expenditure broken down in the different categories. The 2016 AMP forecasts have been added for comparison purposes.

Figure 3.2: 2016 AMP Update Capital Expenditure Summary (Constant \$).



3.3 OPERATIONAL EXPENDITURE

The overall operational expenditure over the period 2018-2022 remains broadly on target with that forecast in the 2016 AMP update.

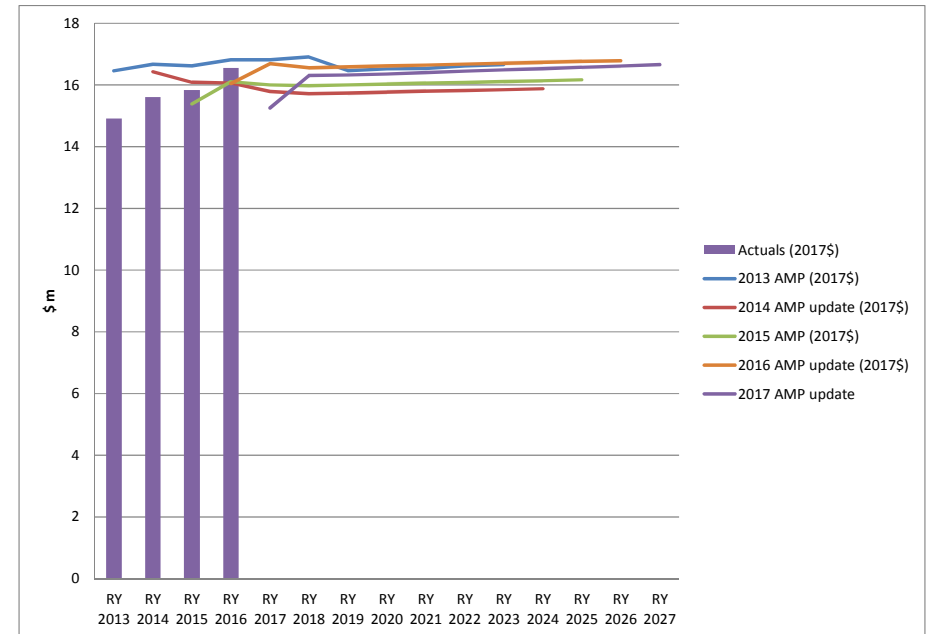
The overall operational expenditure forecast has decreased by approximately

~\$1.3m over the next five-year-period. This is mainly due to the refinement of our network expenditure

We expect the level of expenditure to be broadly constant over the planning period.

Figure 3.3 below shows the revised operational expenditure forecast.

Figure 3.3: Comparison of Operational Expenditure.



| | for year ended | Current Year CY 30 Sep 17 | CY+1 30 Sep 18 | CY+2 30 Sep 19 | CY+3 30 Sep 20 | CY+4 30 Sep 21 | CY+5 30 Sep 22 | CY+6 30 Sep 23 | CY+7 30 Sep 24 | CY+8 30 Sep 25 | CY+9 30 Sep 26 | CY+10 30 Sep 27 |
|--|----------------|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Difference between nominal and constant price forecasts | | \$000 | | | | | | | | | | |
| Consumer connection | | - | 89 | 177 | 279 | 383 | 487 | 591 | 698 | 807 | 920 | 1,036 |
| System growth | | - | 28 | 54 | 75 | 113 | 138 | 199 | 175 | 199 | 219 | 246 |
| Asset replacement and renewal | | - | 29 | 83 | 135 | 151 | 196 | 290 | 490 | 638 | 727 | 829 |
| Asset relocations | | - | 2 | 4 | 6 | 9 | 11 | 13 | 16 | 18 | 21 | 23 |
| Reliability, safety and environment: | | | | | | | | | | | | |
| Quality of supply | | - | 63 | 92 | 120 | 148 | 258 | 198 | 110 | 108 | 158 | 131 |
| Legislative and regulatory | | - | - | - | - | - | - | - | - | - | - | - |
| Other reliability, safety and environment | | - | 40 | 70 | 88 | 120 | 153 | 312 | 509 | 567 | 647 | 739 |
| Total reliability, safety and environment | | - | 103 | 162 | 208 | 268 | 411 | 510 | 619 | 676 | 804 | 870 |
| Expenditure on network assets | | - | 251 | 480 | 702 | 923 | 1,243 | 1,602 | 1,996 | 2,338 | 2,692 | 3,003 |
| Expenditure on non-network assets | | - | 67 | 100 | 115 | 147 | 128 | 111 | 78 | 100 | 135 | 146 |
| Expenditure on assets | | - | 319 | 579 | 818 | 1,070 | 1,371 | 1,713 | 2,074 | 2,438 | 2,826 | 3,149 |
| | | | | | | | | | | | | |
| 11a(ii): Consumer Connection | for year ended | Current Year CY 30 Sep 17 | CY+1 30 Sep 18 | CY+2 30 Sep 19 | CY+3 30 Sep 20 | CY+4 30 Sep 21 | CY+5 30 Sep 22 | | | | | |
| <i>Consumer types defined by GDB*</i> | | \$000 (in constant prices) | | | | | | | | | | |
| Residential / Small Commercial | | 5,847 | 4,324 | 4,437 | 4,484 | 4,478 | 4,458 | | | | | |
| Commercial | | 833 | 448 | 454 | 455 | 454 | 452 | | | | | |
| Industrial | | - | 314 | - | - | - | - | | | | | |
| * include additional rows if needed | | | | | | | | | | | | |
| Consumer connection expenditure | | 6,680 | 5,086 | 4,891 | 4,938 | 4,931 | 4,910 | | | | | |
| less Capital contributions funding consumer connection | | 122 | 87 | 89 | 90 | 90 | 89 | | | | | |
| Consumer connection less capital contributions | | 6,559 | 4,999 | 4,802 | 4,848 | 4,842 | 4,821 | | | | | |
| | | | | | | | | | | | | |
| 11a(iii): System Growth | | | | | | | | | | | | |
| Intermediate pressure | | | | | | | | | | | | |
| Main pipe | | 15 | - | - | - | - | - | | | | | |
| Service pipe | | - | - | - | - | - | - | | | | | |
| Stations | | - | 303 | 358 | 168 | - | - | | | | | |
| Line valve | | - | - | - | - | - | - | | | | | |
| Special crossings | | - | - | - | - | - | - | | | | | |
| Intermediate Pressure total | | 15 | 303 | 358 | 168 | - | - | | | | | |
| Medium pressure | | | | | | | | | | | | |
| Main pipe | | 1,138 | 833 | 629 | 659 | 965 | 813 | | | | | |
| Service pipe | | 230 | 435 | 489 | 494 | 493 | 573 | | | | | |
| Stations | | - | - | - | - | - | - | | | | | |
| Line valve | | 0 | 0 | - | - | - | 3 | | | | | |
| Special crossings | | 0 | 0 | - | - | - | 0 | | | | | |
| Medium Pressure total | | 1,368 | 1,269 | 1,118 | 1,153 | 1,459 | 1,388 | | | | | |

| | | | | | | | |
|-----|--|-----------------------------------|------------------|------------------|------------------|------------------|------------------|
| 92 | Low Pressure | | | | | | |
| 93 | Main pipe | 0 | 0 | - | - | - | 2 |
| 94 | Service pipe | 0 | 0 | - | - | - | 1 |
| 95 | Line valve | 0 | 0 | - | - | - | 0 |
| 96 | Special crossings | 0 | 0 | - | - | - | 0 |
| 97 | Low Pressure total | 0 | 0 | - | - | - | 3 |
| 98 | Other network assets | | | | | | |
| 99 | Monitoring and control systems | - | - | - | - | - | - |
| 100 | Cathodic protection systems | - | - | - | - | - | - |
| 101 | Other assets (other than above) | - | - | - | - | - | - |
| 102 | Other network assets total | - | - | - | - | - | - |
| 103 | | | | | | | |
| 104 | System growth expenditure | 1,383 | 1,572 | 1,477 | 1,321 | 1,459 | 1,391 |
| 105 | less Capital contributions funding system growth | 136 | 155 | 145 | 130 | 144 | 137 |
| 106 | System growth less capital contributions | 1,247 | 1,417 | 1,331 | 1,191 | 1,315 | 1,254 |
| 107 | | | | | | | |
| 108 | | | | | | | |
| 109 | | <i>Current Year CY</i> | <i>CY+1</i> | <i>CY+2</i> | <i>CY+3</i> | <i>CY+4</i> | <i>CY+5</i> |
| | for year ended | 30 Sep 17 | 30 Sep 18 | 30 Sep 19 | 30 Sep 20 | 30 Sep 21 | 30 Sep 22 |
| 110 | 11a(iv): Asset Replacement and Renewal | | | | | | |
| 111 | Intermediate pressure | \$000 (in constant prices) | | | | | |
| 112 | Main pipe | 7 | 11 | 23 | 19 | 19 | 19 |
| 113 | Service pipe | 3 | 5 | 10 | 8 | 8 | 8 |
| 114 | Stations | 189 | 177 | 56 | 112 | 112 | 111 |
| 115 | Line valve | 0 | 0 | 0 | 0 | 0 | 0 |
| 116 | Special crossings | 0 | 0 | 0 | 0 | 0 | 0 |
| 117 | Intermediate Pressure total | 200 | 193 | 89 | 140 | 139 | 139 |
| 118 | Medium pressure | | | | | | |
| 119 | Main pipe | 1,096 | 843 | 1,223 | 1,296 | 1,166 | 1,194 |
| 120 | Service pipe | 601 | 591 | 654 | 683 | 624 | 633 |
| 121 | Station | - | - | - | - | - | - |
| 122 | Line valve | 1 | 47 | 50 | 5 | 5 | 5 |
| 123 | Special crossings | 0 | 0 | 1 | 1 | 1 | 1 |
| 124 | Medium Pressure total | 1,698 | 1,481 | 1,929 | 1,985 | 1,796 | 1,833 |
| 125 | Low Pressure | | | | | | |
| 126 | Main pipe | 1 | 2 | 5 | 4 | 4 | 4 |
| 127 | Service pipe | 0 | 1 | 2 | 2 | 2 | 2 |
| 128 | Line valve | 0 | 0 | 0 | 0 | 0 | 0 |
| 129 | Special crossings | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | Low Pressure total | 1 | 3 | 7 | 6 | 6 | 6 |

| | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|-------|
| 131 | Other network assets | | | | | | |
| 132 | Monitoring and control systems | | | | | | |
| 133 | Cathodic protection systems | | | 253 | 257 | | |
| 134 | Other assets (other than above) | | | | | | |
| 135 | Other network assets total | | | 253 | 257 | | |
| 136 | | | | | | | |
| 137 | Asset replacement and renewal expenditure | 1,900 | 1,678 | 2,278 | 2,388 | 1,941 | 1,977 |
| 138 | less Capital contributions funding asset replacement and renewal | | | | | | |
| 139 | Asset replacement and renewal less capital contributions | 1,900 | 1,678 | 2,278 | 2,388 | 1,941 | 1,977 |
| 140 | | | | | | | |
| 141 | 11a(v): Asset Relocations | | | | | | |
| 142 | <i>Project or programme*</i> | | | | | | |
| 143 | None | | | | | | |
| 144 | | | | | | | |
| 145 | | | | | | | |
| 146 | | | | | | | |
| 147 | | | | | | | |
| 148 | <i>* include additional rows if needed</i> | | | | | | |
| 149 | All other projects or programmes - asset relocations | 274 | 110 | 111 | 112 | 112 | 111 |
| 150 | Asset relocations expenditure | 274 | 110 | 111 | 112 | 112 | 111 |
| 151 | less Capital contributions funding asset relocations | 213 | 86 | 87 | 87 | 87 | 87 |
| 152 | Asset relocations less capital contributions | 60 | 24 | 24 | 25 | 25 | 24 |
| 153 | | | | | | | |
| 154 | | | | | | | |
| 155 | 11a(vi): Quality of Supply | | | | | | |
| 156 | | | | | | | |
| 157 | <i>Project or programme*</i> | | | | | | |
| 158 | Wellington CBD upgrade | 1,716 | 3,133 | 2,099 | 1,849 | 1,846 | 1,838 |
| 159 | Karori IP Investigation | | | | | 56 | 500 |
| 160 | Westtown Capacity Reinforcement - Phase 2 | 22 | 22 | | | | 233 |
| 161 | Milson Line Rationalisation | 30 | 215 | 276 | | | |
| 162 | Palmerston North Eastern Reinforcement | 723 | 89 | | | | |
| 163 | <i>* include additional rows if needed</i> | | | | | | |
| 164 | All other projects or programmes - quality of supply | 120 | 153 | 167 | 280 | | 28 |
| 165 | Quality of supply expenditure | 2,612 | 3,611 | 2,542 | 2,129 | 1,901 | 2,599 |
| 166 | less Capital contributions funding quality of supply | | | | | | |
| 167 | Quality of supply less capital contributions | 2,612 | 3,611 | 2,542 | 2,129 | 1,901 | 2,599 |
| 168 | | | | | | | |

169 **11a(vii): Legislative and Regulatory**

| | | | | | | | |
|-----|--|---|---|---|---|---|---|
| 170 | <i>Project or programme</i> | | | | | | |
| 171 | None | | | | | | |
| 172 | | | | | | | |
| 173 | | | | | | | |
| 174 | | | | | | | |
| 175 | | | | | | | |
| 176 | <i>* include additional rows if needed</i> | | | | | | |
| 177 | All other projects or programmes - legislative and regulatory | | | | | | |
| 178 | Legislative and regulatory expenditure | - | - | - | - | - | - |
| 179 | <i>less</i> Capital contributions funding legislative and regulatory | | | | | | |
| 180 | Legislative and regulatory less capital contributions | - | - | - | - | - | - |

181 **11a(viii): Other Reliability, Safety and Environment**

| | | | | | | | |
|-----|---|-------|-------|-------|-------|-------|-------|
| 182 | <i>Project or programme*</i> | | | | | | |
| 183 | Dover Street DRS Undergrounding | 16 | 104 | - | - | - | - |
| 184 | Riddlers Crescent DRS Rationalisation | 6 | 415 | - | - | - | - |
| 185 | DRS Renewal programme (All regions) | - | 165 | 1,274 | 895 | 893 | 889 |
| 186 | DRS SCADA & Flow measurement | - | 138 | 278 | 280 | 279 | 278 |
| 187 | IP Isolation Plans | - | - | 133 | 134 | 134 | 133 |
| 188 | <i>* include additional rows if needed</i> | | | | | | |
| 189 | All other projects or programmes - other reliability, safety and environment | 1,883 | 1,463 | 244 | 246 | 246 | 245 |
| 190 | Other reliability, safety and environment expenditure | 1,905 | 2,285 | 1,930 | 1,555 | 1,552 | 1,545 |
| 191 | <i>less</i> Capital contributions funding other reliability, safety and environment | | | | | | |
| 192 | Other Reliability, safety and environment less capital contributions | 1,905 | 2,285 | 1,930 | 1,555 | 1,552 | 1,545 |

194 **11a(ix): Non-Network Assets**

| | | | | | | | |
|-----|---|-------|-------|-------|-------|-------|-------|
| 195 | Routine expenditure | | | | | | |
| 196 | <i>Project or programme*</i> | | | | | | |
| 197 | None | | | | | | |
| 198 | | | | | | | |
| 199 | | | | | | | |
| 200 | | | | | | | |
| 201 | | | | | | | |
| 202 | <i>* include additional rows if needed</i> | | | | | | |
| 203 | All other projects or programmes - routine expenditure | 2,490 | 3,834 | 2,743 | 2,042 | 1,893 | 1,294 |
| 204 | Routine expenditure | 2,490 | 3,834 | 2,743 | 2,042 | 1,893 | 1,294 |
| 205 | Atypical expenditure | | | | | | |
| 206 | <i>Project or programme*</i> | | | | | | |
| 207 | | | | | | | |
| 208 | | | | | | | |
| 209 | | | | | | | |
| 210 | | | | | | | |
| 211 | | | | | | | |
| 212 | <i>* include additional rows if needed</i> | | | | | | |
| 213 | All other projects or programmes - atypical expenditure | | | | | | |
| 214 | Atypical expenditure | - | - | - | - | - | - |
| 215 | | | | | | | |
| 216 | Expenditure on non-network assets | 2,490 | 3,834 | 2,743 | 2,042 | 1,893 | 1,294 |

Company Name **Powerco Limited**
 AMP Planning Period **1 October 2017 – 30 September 2027**

SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

This schedule requires a breakdown of forecast operational expenditure for the disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. GDBs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes). This information is not part of audited disclosure information.

sch ref

| | Current year CY | CY+1 | CY+2 | CY+3 | CY+4 | CY+5 | CY+6 | CY+7 | CY+8 | CY+9 | CY+10 |
|---|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| for year ended | 30 Sep 17 | 30 Sep 18 | 30 Sep 19 | 30 Sep 20 | 30 Sep 21 | 30 Sep 22 | 30 Sep 23 | 30 Sep 24 | 30 Sep 25 | 30 Sep 26 | 30 Sep 27 |
| Operational Expenditure Forecast | | | | | | | | | | | |
| | \$000 (in nominal dollars) | | | | | | | | | | |
| Service interruptions, incidents and emergencies | 361 | 375 | 385 | 395 | 406 | 418 | 429 | 441 | 453 | 466 | 479 |
| Routine and corrective maintenance and inspection | 2,348 | 2,436 | 2,497 | 2,561 | 2,634 | 2,711 | 2,786 | 2,863 | 2,942 | 3,023 | 3,107 |
| Asset replacement and renewal | 2,582 | 2,638 | 2,704 | 2,773 | 2,853 | 2,936 | 3,017 | 3,100 | 3,186 | 3,274 | 3,365 |
| Network opex | 5,292 | 5,449 | 5,586 | 5,729 | 5,893 | 6,064 | 6,232 | 6,404 | 6,582 | 6,763 | 6,950 |
| System operations and network support | 3,747 | 4,563 | 4,603 | 4,692 | 4,786 | 4,882 | 4,980 | 5,079 | 5,181 | 5,285 | 5,390 |
| Business support | 6,214 | 6,581 | 6,724 | 6,856 | 6,991 | 7,132 | 7,274 | 7,419 | 7,567 | 7,718 | 7,874 |
| Non-network opex | 9,960 | 11,144 | 11,327 | 11,547 | 11,778 | 12,014 | 12,254 | 12,498 | 12,748 | 13,003 | 13,264 |
| Operational expenditure | 15,252 | 16,593 | 16,914 | 17,276 | 17,671 | 18,078 | 18,486 | 18,902 | 19,330 | 19,766 | 20,215 |
| | \$000 (in constant prices) | | | | | | | | | | |
| Service interruptions, incidents and emergencies | 361 | 369 | 371 | 373 | 377 | 380 | 383 | 386 | 389 | 392 | 394 |
| Routine and corrective maintenance and inspection | 2,348 | 2,394 | 2,410 | 2,424 | 2,445 | 2,466 | 2,485 | 2,504 | 2,522 | 2,541 | 2,560 |
| Asset replacement and renewal | 2,582 | 2,592 | 2,610 | 2,625 | 2,647 | 2,671 | 2,691 | 2,711 | 2,732 | 2,752 | 2,773 |
| Network opex | 5,292 | 5,355 | 5,391 | 5,423 | 5,469 | 5,517 | 5,559 | 5,600 | 5,642 | 5,685 | 5,727 |
| System operations and network support | 3,747 | 4,484 | 4,442 | 4,441 | 4,442 | 4,442 | 4,442 | 4,442 | 4,442 | 4,442 | 4,442 |
| Business support | 6,214 | 6,467 | 6,488 | 6,489 | 6,488 | 6,488 | 6,488 | 6,488 | 6,488 | 6,487 | 6,488 |
| Non-network opex | 9,960 | 10,952 | 10,931 | 10,930 | 10,930 | 10,930 | 10,930 | 10,929 | 10,929 | 10,929 | 10,930 |
| Operational expenditure | 15,252 | 16,307 | 16,322 | 16,353 | 16,398 | 16,447 | 16,489 | 16,529 | 16,572 | 16,614 | 16,657 |
| Subcomponents of operational expenditure (where known) | | | | | | | | | | | |
| Research and development | - | - | - | - | - | - | - | - | - | - | - |
| Insurance | 121 | 122 | 124 | 126 | 129 | 131 | 134 | 136 | 139 | 142 | 145 |
| | \$000 | | | | | | | | | | |
| Service interruptions, incidents and emergencies | - | 6 | 13 | 21 | 29 | 38 | 46 | 55 | 65 | 74 | 84 |
| Routine and corrective maintenance and inspection | - | 42 | 87 | 137 | 190 | 245 | 301 | 359 | 420 | 482 | 547 |
| Asset replacement and renewal | - | 45 | 95 | 148 | 205 | 265 | 326 | 389 | 455 | 522 | 592 |
| Network opex | - | 94 | 196 | 306 | 424 | 547 | 673 | 804 | 939 | 1,079 | 1,223 |
| System operations and network support | - | 79 | 161 | 251 | 345 | 440 | 538 | 638 | 739 | 843 | 948 |
| Business support | - | 113 | 235 | 366 | 503 | 643 | 786 | 931 | 1,080 | 1,231 | 1,386 |
| Non-network opex | - | 192 | 397 | 617 | 848 | 1,084 | 1,324 | 1,569 | 1,819 | 2,074 | 2,334 |
| Operational expenditure | - | 286 | 592 | 923 | 1,272 | 1,631 | 1,997 | 2,373 | 2,758 | 3,152 | 3,557 |

Company Name

Powerco Limited

AMP Planning Period

1 October 2017 – 30 September 2027

SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a.

sch ref

7

Asset condition at start of planning period (percentage of units by grade)

| sch ref | Operating Pressure | Asset category | Asset class | Units | Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade unknown | Data accuracy (1-4) | % of asset forecast |
|---------|-----------------------|--------------------------------|---------------------------|-------|---------|---------|---------|---------|---------------|------------------------|-----------------------------------|
| | | | | | | | | | | | to be replaced in next 5 years |
| 8 | Intermediate Pressure | Main pipe | IP PE main pipe | km | - | - | 0.03% | 99.21% | 0.76% | 3 | - |
| 10 | Intermediate Pressure | Main pipe | IP steel main pipe | km | - | - | 79.90% | 0.30% | 19.81% | 3 | - |
| 11 | Intermediate Pressure | Main pipe | IP other main pipe | km | - | - | - | - | - | - | - |
| 12 | Intermediate Pressure | Service pipe | IP PE service pipe | km | - | - | 77.96% | 18.04% | 4.01% | 3 | - |
| 13 | Intermediate Pressure | Service pipe | IP steel service pipe | km | - | 0.03% | 24.14% | 0.79% | 75.04% | 3 | 0.00 |
| 14 | Intermediate Pressure | Service pipe | IP other service pipe | km | - | - | 94.89% | 0.68% | 4.43% | 3 | - |
| 15 | Intermediate Pressure | Stations | Intermediate pressure DRS | No. | 4.20% | 4.20% | 73.43% | 17.48% | 0.70% | 3 | 0.08 |
| 16 | Intermediate Pressure | Line valve | IP line valves | No. | 0.69% | 1.01% | 56.19% | 5.15% | 36.96% | 3 | 0.01 |
| 17 | Intermediate Pressure | Special crossings | IP crossings | No. | 0.83% | 0.26% | 84.92% | 0.83% | 13.16% | 2 | 0.01 |
| 18 | Medium Pressure | Main pipe | MP PE main pipe | km | 0.11% | 0.02% | 90.71% | 8.40% | 0.76% | 3 | 0.00 |
| 19 | Medium Pressure | Main pipe | MP steel main pipe | km | 1.37% | 0.02% | 78.60% | 0.20% | 19.81% | 3 | 0.01 |
| 20 | Medium Pressure | Main pipe | MP other main pipe | km | - | - | 22.68% | 0.01% | 77.30% | 3 | - |
| 21 | Medium Pressure | Service pipe | MP PE service pipe | km | - | 0.10% | 84.13% | 11.76% | 4.01% | 3 | 0.00 |
| 22 | Medium Pressure | Service pipe | MP steel service pipe | km | 1.09% | 0.06% | 23.73% | 0.08% | 75.04% | 3 | 0.01 |
| 23 | Medium Pressure | Service pipe | MP other service pipe | km | - | 0.02% | 93.66% | 1.89% | 4.43% | 3 | 0.00 |
| 24 | Medium Pressure | Stations | Medium pressure DRS | No. | - | 8.96% | 80.60% | 8.96% | 1.49% | 3 | 0.09 |
| 25 | Medium Pressure | Line valve | MP line valves | No. | - | 1.13% | 46.51% | 15.89% | 36.46% | 3 | 0.01 |
| 26 | Medium Pressure | Special crossings | MP special crossings | No. | 0.36% | 1.02% | 82.38% | 2.16% | 14.08% | 2 | 0.01 |
| 27 | Low Pressure | Main pipe | LP PE main pipe | km | - | 0.01% | 88.44% | 10.78% | 0.76% | 3 | 0.00 |
| 28 | Low Pressure | Main pipe | LP steel main pipe | km | - | - | 80.04% | 0.15% | 19.81% | 3 | - |
| 29 | Low Pressure | Main pipe | LP other main pipe | km | - | - | 9.22% | 13.48% | 77.30% | 3 | - |
| 30 | Low Pressure | Service pipe | LP PE service pipe | km | - | 0.67% | 86.00% | 9.32% | 4.01% | 3 | 0.01 |
| 31 | Low Pressure | Service pipe | LP steel service pipe | km | - | - | 24.59% | 0.37% | 75.04% | 3 | - |
| 32 | Low Pressure | Service pipe | LP other service pipe | km | - | - | 76.44% | 19.13% | 4.43% | 3 | - |
| 33 | Low Pressure | Line valve | LP line valves | No. | - | 0.99% | 38.98% | 21.15% | 38.87% | 3 | 0.00 |
| 34 | Low Pressure | Special crossings | LP special crossings | No. | - | - | 95.57% | - | 4.43% | 2 | - |
| 35 | All | Monitoring and control systems | Remote terminal units | No. | - | - | 87.50% | 12.50% | - | 4 | - |
| 36 | All | Cathodic protection systems | Cathodic protection | No. | - | 29.09% | 52.73% | 5.45% | 12.73% | 3 | 0.07 |

SCHEDULE 12b: REPORT ON FORECAST UTILISATION

This Schedule requires a breakdown of current and forecast utilisation (for heavily utilised pipelines) consistent with the information provided in the AMP and the demand forecast in schedule S12c.

sch ref

Forecast Utilisation of Heavily Utilised Pipelines

Utilisation

| Region | Network | Pressure system | Nominal operating pressure (NOP) (kPa) | Minimum operating pressure (MinOP) (kPa) | Total capacity at MinOP (scmh) | Remaining capacity at MinOP (scmh) | Unit | Current Year CY | CY+1 | CY+2 | CY+3 | CY+4 | CY+5 | Comment |
|---------------------|-------------------------|------------------------|--|--|--------------------------------|------------------------------------|------|-----------------|---------------|---------------|---------------|---------------|---------------|--|
| | | | | | | | | y/e 30 Sep 17 | y/e 30 Sep 18 | y/e 30 Sep 19 | y/e 30 Sep 20 | y/e 30 Sep 21 | y/e 30 Sep 22 | |
| Hawkes Bay | Hastings | Hastings LMP | 150 | 90 | 1097 | 61 | scmh | 1076 | 1099 | 1126 | 1151 | 1187 | 1202 | We expect this pressure system to become constrained in RY21 (from subdivision growth in Havelock North). We will continue to actively monitor pressures and uprate the pressure once the network becomes constrained (expected to start in RY22) to cater the growth on this network. The pressure uprating will continue until a NOP of 200kPa is reached. |
| | | | | | | | kPa | 102 | 99 | 96 | 93 | 87 | 97 | |
| Hawkes Bay | Hastings | Taradale | 140 | 84 | 657 | 124 | scmh | 658 | 716 | 763 | 824 | 869 | 914 | We will actively monitor subdivision growth on this network. We expect this system to reach 50% droop in RY19, and increment the pressure by 5% per year beginning in RY19 (cf. Section 2.6.1 of the 2016 Gas AMP Update). |
| | | | | | | | kPa | 83 | 78 | 82 | 74 | 80 | 85 | |
| Hutt Valley/Porirua | Belmont | Belmont LIP | 860 | 516 | 16082 | 517 | scmh | 16136 | 16223 | 16298 | 16374 | 16442 | 16489 | Constraints are observed on the supply pipe of 2 stations. While we actively monitor pressure, we expect available capacity to decline further with the growth in Upper Hutt. Minimum Operating pressure has been reviewed to 300kPa locally (Ward Street). In RY20, we plan to build the Upper Hutt IP Interconnection, increasing the pressure. |
| | | | | | | | kPa | 459 | 409 | 356 | 524 | 495 | 495 | |
| Hutt Valley/Porirua | Belmont | Kelson | 200 | 120 | 553 | 83 | scmh | 528 | 528 | 564 | 600 | 636 | 672 | New subdivision growth results in constraints from RY19. We will install a new point of supply in RY20 as per Section 8 of the 2015 Gas AMP. We will continue to monitor the growth as it occurs. |
| | | | | | | | kPa | 133 | 133 | 118 | 161 | 147 | 128 | |
| Hutt Valley/Porirua | Belmont | Lower Hutt LMP | 135 | 81 | 28 | 126 | scmh | 5393 | 5393 | 5393 | 5393 | 5393 | 5393 | We will continue to monitor through the pressure monitoring programme. Should the network become constrained up to a 50% droop from NOP, we would consider building an interconnection with Normandale where there is more capacity. |
| | | | | | | | kPa | 70 | 70 | 70 | 70 | 70 | 70 | |
| Hutt Valley/Porirua | Waitangirua/Pauatahanui | Plimmerton IP | 1000 | 300 | 1228 | 663 | scmh | 1025 | 1090 | 1143 | 1198 | 1232 | 1253 | This pressure system is actively monitored through SCADA. |
| | | | | | | | kPa | 653 | 624 | 600 | 576 | 558 | 545 | |
| Manawatu | Palmerston North | Awapuni LMP | 100 | 60 | 63 | 46 | scmh | 160 | 160 | 160 | 175 | 189 | 203 | As subdivision growth happens, we will keep monitor pressure and reinforce in RY23 as per the options in Section 8 of the 2015 Gas AMP. |
| | | | | | | | kPa | 61 | 61 | 61 | 58 | 55 | 51 | |
| Manawatu | Palmerston North | Palmerston North LMP | 100 | 60 | 5624 | 103 | scmh | 5658 | 5773 | 5801 | 5829 | 5857 | 5885 | Whilst the James Line railway crossing reduces constraint in the Kelvin Grove area in RY18, the Hokowhitu area remains constrained. In RY19, we will build a road crossing at Main St and Victoria Ave and enhance of a point of supply to improve pressure in the Hokowhitu area and add support to the system as a whole. |
| | | | | | | | kPa | 49 | 49 | 60 | 60 | 60 | 60 | |
| Manawatu | Palmerston North | Summerhill | 100 | 60 | 509 | 202 | scmh | 414 | 446 | 478 | 511 | 543 | 576 | As the biggest identified area for growth in Palmerston North, we will actively monitor demand and pressure levels. A pressure uprating will begin once the pressure drops below 50kPa, which is not expected to be required before RY22. |
| | | | | | | | kPa | 75 | 71 | 67 | 62 | 57 | 51 | |
| Taranaki | Manaia | Manaia | 340 | 204 | 147 | 53 | scmh | 169 | 169 | 169 | 169 | 169 | 169 | This pressure system is dependent on a single commercial consumer. We do not expect any increase in the demand on this network, but we will actively monitor the performance of this system. |
| | | | | | | | kPa | 148 | 148 | 148 | 148 | 148 | 148 | |
| Taranaki | New Plymouth | Bell Block North | 225 | 135 | 869 | 98 | scmh | 898 | 978 | 1052 | 1117 | 1168 | 1218 | Pressure monitoring in Winter 2017 confirmed constraints in the SW part of the network. We will reinforce the network by increasing capacity around Nugent Street in RY18. We will continue to monitor pressure and expected growth. |
| | | | | | | | kPa | 113 | 121 | 114 | 108 | 102 | 95 | |
| Taranaki | New Plymouth | New Plymouth IP | 1250 | 750 | 8038 | 1629 | scmh | 8267 | 8382 | 8493 | 8598 | 8684 | 8771 | The pressure at the Inlet of Tukapa Street station is constrained. We have refined the Minimum Operating pressure to 450kPa and will monitor through SCADA. |
| | | | | | | | kPa | 673 | 667 | 660 | 580 | 577 | 574 | |
| Taranaki | New Plymouth | New Plymouth MP | 250 | 150 | 5694 | 130 | scmh | 5732 | 5761 | 5793 | 5834 | 5848 | 5863 | The model indicates localised pressure constraints due to a relatively long main with small diameter feedings some larger consumers. We will continue to actively monitor this area of the network. |
| | | | | | | | kPa | 120 | 120 | 120 | 119 | 119 | 119 | |
| Taranaki | Patea | Patea | 350 | 210 | 337 | 73 | scmh | 374 | 374 | 374 | 374 | 374 | 374 | This pressure system has no expected growth and network performance is not expected to change. We will actively monitor the performance of this pressure system. |
| | | | | | | | kPa | 135 | 135 | 135 | 135 | 135 | 135 | |
| Taranaki | Waitara | Waitara MP (Lepperton) | 250 | 150 | 753 | 67 | scmh | 809 | 519 | 519 | 519 | 519 | 519 | New commercial loads have constrained this pressure system. A project is underway to split Lepperton from this pressure system from Waitara in RY18, and offer higher pressure levels. |
| | | | | | | | kPa | 42 | 217 | 217 | 217 | 217 | 217 | |

| 9 | 10 | Region | Network | Pressure system | Minimum | | Total capacity at MinOP (scmh) | Remaining capacity at MinOP (scmh) | Unit | Current Year CY y/e 30 Sep 17 | CY+1 y/e 30 Sep 18 | CY+2 y/e 30 Sep 19 | CY+3 y/e 30 Sep 20 | CY+4 y/e 30 Sep 21 | CY+5 y/e 30 Sep 22 | Comment |
|----|---|--------|-------------------|-----------------|--|----------------------------------|--------------------------------|------------------------------------|-------|-------------------------------|--------------------|--------------------|--------------------|--------------------|---|---------|
| | | | | | Nominal operating pressure (NOP) (kPa) | operating pressure (MinOP) (kPa) | | | | | | | | | | |
| 17 | Wellington | Tawa A | Eastern Suburbs | 125 | 75 | 3222 | 71 | scmh | 3242 | 3616 | 3655 | 3655 | 3655 | 3655 | An additional commercial load by the airport will impact the network in RY17-18. We will continue to actively monitor once the load comes on to evaluate the overall performance of the network, and identify any potential reinforcements. | |
| 18 | | | | | | | | kPa | 62 | 50 | 50 | 50 | 50 | 50 | | |
| 19 | Wellington | Tawa A | Karori | 130 | 78 | 1215 | 37 | scmh | 1228 | 1228 | 1228 | 1228 | 1228 | 1228 | Utilisation on this pressure system has increased year-on-year due to infill. We will continue to actively monitor through the pressure monitoring programme. | |
| 20 | | | | | | | | kPa | 63 | 63 | 63 | 63 | 63 | 63 | | |
| 21 | Wellington | Tawa A | Wellington 25 kPa | 25 | 15 | 8797 | 73 | scmh | 8822 | 8994 | 10880 | 10880 | 11515 | 13780 | Wellington CBD upgrade will see the flow and capacity on this pressure system increase, although low points have been identified in Mount Cook and Southgate. Mount Cook will be improved following the completion of CBD upgrade Sector 2 in RY19. In Southgate, we will improve performance by increasing the capacity of the mains feeding Dover Street DBS when it is renewed in RY17. We will continue to actively monitor pressures in these areas. | |
| 22 | | | | | | | | kPa | 11 | 11 | 13 | 13 | 13 | 13 | | |
| 23 | Wellington | Tawa A | Wellington CBD | 10 | 6 | 4774 | 77 | scmh | 4786 | 4786 | 2900 | 2900 | 2265 | 0 | Wellington CBD upgrade will reconfigure the network and this pressure system will be connected to the Wellington 25kPa upon project completion. | |
| 24 | | | | | | | | kPa | 5 | 5 | 6 | 6 | 5 | - | | |
| 25 | Wellington | Tawa A | Wellington IP | 1200 | 300 | 29889 | 955 | scmh | 28310 | 29077 | 29237 | 29385 | 29542 | 29629 | The Wellington IP low point is in Newtown. The Minimum Operating Pressure in the area has been reviewed and set to 300kPa. We will continue to monitor through SCADA. The Wellington CBD upgrade will also take constraints off the Wellington IP through network reconfiguration. | |
| 26 | | | | | | | | kPa | 646 | 580 | 609 | 604 | 590 | 589 | | |
| 27 | Wellington | Tawa A | Wellington North | 185 | 111 | 5949 | 298 | scmh | 6006 | 6203 | 6340 | 6465 | 6606 | 6694 | The demand on this network will increase due to the subdivision activity in the region. Reinforcement work (Horokivi Road West overlay) will cater for the future growth in the area. Although the low pressure point is currently located away from the growth area, the network is being continuously monitored. | |
| 28 | | | | | | | | kPa | 80 | 79 | 79 | 78 | 77 | 75 | | |
| 29 | Wellington | Tawa A | Chartwell | 70 | 42 | 237 | 114 | scmh | 131 | 156 | 179 | 202 | 219 | 219 | The new Crofton Downs subdivision will constrain this network, and we expect that it will reach our minimum pressure criteria in RY21. We will monitor the pressure and demand on the network. | |
| 30 | | | | | | | | kPa | 62 | 62 | 59 | 51 | 41 | 41 | | |
| 31 | * Current year utilisation figures may be estimates. Year 1–5 figures show the utilisation forecast to occur given the expected system configuration for each year, including the effect of any new investment in the pressure system. | | | | | | | | | | | | | | | |
| 32 | Disclaimer for supply enquiries | | | | | | | | | | | | | | | |
| 33 | The information in this table contains modelled estimates of utilisation and capacity. Any interested party seeking to invest in supply from Powerco's distribution networks should contact Powerco or their retailer and confirm availability of capacity. | | | | | | | | | | | | | | | |
| 34 | Notes and assumptions | | | | | | | | | | | | | | | |
| 35 | Growth patterns used were outlined in the 2017 Gas AMP update, revised with our current knowledge. | | | | | | | | | | | | | | | |
| 36 | If the growth was expected to spread over multiple years, it was uniformly spread over life. | | | | | | | | | | | | | | | |
| 37 | The number of lots identified in the 2017 Gas AMP update was multiplied by 0.72scmh to calculate a diversified load per connection. This was summed and placed at a single point in the model where the load is expected to occur. | | | | | | | | | | | | | | | |
| 38 | If the growth specified in the 2017 Gas AMP update was inferior to our supply forecasts, we would reconcile these by adding the load at one extremity of the network. | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | |

Company Name

Powerco Limited

AMP Planning Period

1 October 2017 – 30 September 2027

SCHEDULE 12c: REPORT ON FORECAST DEMAND

This schedule requires a forecast of new connections (by consumer type), peak demand and energy volumes for the disclosure year and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumptions used in developing the expenditure forecasts in Schedule 11a and Schedule 11b and the capacity and utilisation forecasts in Schedule 12b.

sch ref

12c(i) Consumer Connections

Number of ICPs connected in year by consumer type

| | Current year CY 30 Sep 17 | CY+1 30 Sep 18 | CY+2 30 Sep 19 | CY+3 30 Sep 20 | CY+4 30 Sep 21 | CY+5 30 Sep 22 |
|--------------------------------------|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <i>Consumer types defined by GDB</i> | | | | | | |
| Residential | 1,690 | 1,720 | 1,739 | 1,745 | 1,746 | 1,746 |
| Commercial / Industrial | 151 | 151 | 151 | 150 | 150 | 150 |
| [GDB consumer type] | | | | | | |
| [GDB consumer type] | | | | | | |
| [GDB consumer type] | | | | | | |
| Total | 1,841 | 1,871 | 1,889 | 1,895 | 1,896 | 1,896 |

12c(ii): Gas Delivered

| | Current year CY 30 Sep 17 | CY+1 30 Sep 18 | CY+2 30 Sep 19 | CY+3 30 Sep 20 | CY+4 30 Sep 21 | CY+5 30 Sep 22 |
|--|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Number of ICPs at year end (at year end) | 106,675 | 107,383 | 108,119 | 108,856 | 109,593 | 110,335 |
| Maximum daily load (GJ per day) | 37,685 | 37,880 | 38,275 | 38,679 | 39,089 | 39,508 |
| Maximum monthly load (GJ per month) | 986,837 | 991,925 | 1,002,283 | 1,012,856 | 1,023,598 | 1,034,565 |
| Number of directly billed ICPs (at year end) | - | - | - | - | - | - |
| Total gas conveyed (GJ per annum) | 8,840,326 | 8,909,332 | 9,002,844 | 9,098,070 | 9,195,057 | 9,293,078 |
| Average daily delivery (GJ per day) | 24,220 | 24,409 | 24,665 | 24,858 | 25,192 | 25,460 |
| Load factor | 74.65% | 74.85% | 74.85% | 74.85% | 74.86% | 74.85% |

Schedule 14a: Mandatory Explanatory Notes on Forecast Information

1. This Schedule requires GDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.
2. This Schedule is mandatory—GDBs must provide the explanatory comment specified below, in accordance with clause 2.7.2. This information is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.

Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a)

3. In the box below, comment on the difference between nominal and constant price capital expenditure for the disclosure year and the 10 year planning period, as disclosed in Schedule 11a.

Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts

The index used to translate nominal \$ forecasts into constant \$ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from June 2017.

For example, the index used for the year ending 30 September 2018 is based on the annual average movement using CPI predictions (actuals where available) as follows:

$(Q1\ RY18 + Q2\ RY18 + Q3\ RY18 + Q4\ RY18) / (Q1\ RY17 + Q2\ RY17 + Q3\ RY17 + Q4\ RY17)$.

Commentary on difference between nominal and constant price operational expenditure forecasts (Schedule 11b)

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the disclosure year, as disclosed in Schedule 11b.

Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts

The index used to translate nominal \$ forecasts into constant \$ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from June 2017.

For example, the index used for the year ending 30 September 2018 is based on the annual average movement using CPI predictions (actuals where available) as follows:

$(Q1\ RY18 + Q2\ RY18 + Q3\ RY18 + Q4\ RY18) / (Q1\ RY17 + Q2\ RY17 + Q3\ RY17 + Q4\ RY17)$.


CERTIFICATE FOR YEAR-BEGINNING DISCLOSURES

Pursuant to clause 2.9.1 of Section 2.9

We, Gordon Hay and John Loughlin, being directors of Powerco Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

- a) the following attached information of Powerco Limited prepared for the purposes of clauses 2.6.3, 2.6.6 and 2.7.2 of the Gas Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.
- b) The prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.
- c) The forecasts in Schedules 11a, 11b, 12a, 12b and 12c are based on objective and reasonable assumptions which both align with Powerco Limited's corporate vision and strategy and are documented in retained records.

Gordon Hay
Director


Director

29/9/17
Date

29/9/17
Date